



*DOWNLOAD THE  
LATEST INSTALL*



# **X-INTAKE GRID**

**Cummins 6.7L High Flow Intake Plenum Cover**

**1041564**


**2008-2016 6.7L RAM 2500-3500 Pickup**




**PLEASE READ ALL INSTRUCTIONS BEFORE INSTALLATION**

**⚠ Engine tuning is required to disable code P2609 for the intake air heater**

### Kit Contents

Please check to make sure that you have all the parts listed in this kit **before** you start the disassembly of your truck.

<b>1401567</b>

<i>Intake Plate</i>
<b>Qty: 1</b>

<b>5086829AA</b>	<b>68024672AB</b>	<b>1401580</b>
		
<i>Gasket Plate Lower</i>	<i>Gasket Plate Upper</i>	<i>IAT Sensor Extension</i>
<b>Qty: 1</b>	<b>Qty: 1</b>	<b>Qty: 1</b>

### Optional Related BD Parts

Description	Part #
6.7L Dodge Intake Horn Kit 2008-10	1041560
6.7L Dodge Intake Horn Kit 2011-12	1041561



## Tools Required

- 8mm, 10mm Deep Socket
- 7/16", 1/2", 1" Deep Socket
- Ratchet with Extensions
- 9/16", 1" Wrench
- 17mm, 19mm Wrench
- Pipe Dope
- Blade Screwdriver
- Side Cutters
- Razor Knife
- Masking Tape & Pen

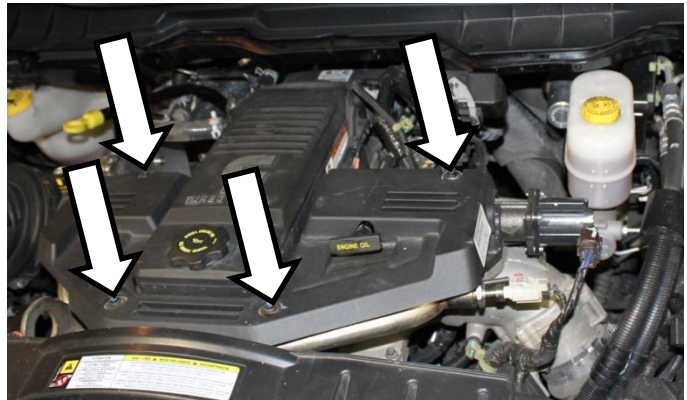
## INSTALLATION



**Vehicle should be safely secured before installation. Engine tuning is required to disable code P2609 for the intake air heater**

1. Record radio settings then disconnect the negative terminals on both of the vehicle's batteries, and then disconnect the positive terminals.

2. Pull out the oil dipstick then remove the four bolts that secure the plastic cover to the engine. (8mm)



3. Disconnect the EGR valve connector from the EGR valve.

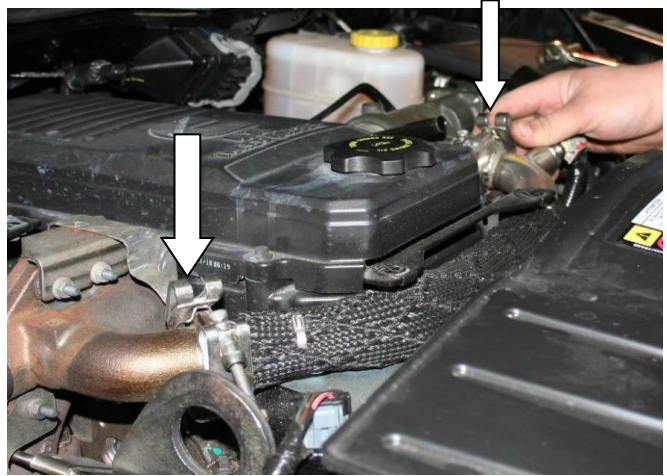
**2011 and up only**

You will need to disconnect the temperature sensor connector as well.



4. Loosen the EGR cross over pipe clamps (11 mm) and slide them down the pipe. Remove the bolt located at the center of the pipe, and remove the pipe from the vehicle. (8mm)

Note: When releasing the pipe from the engine there will be a loose washer on the left side. Be sure not to lose this as it will need to be reinstalled.



BD ENGINE BRAKE, INC.

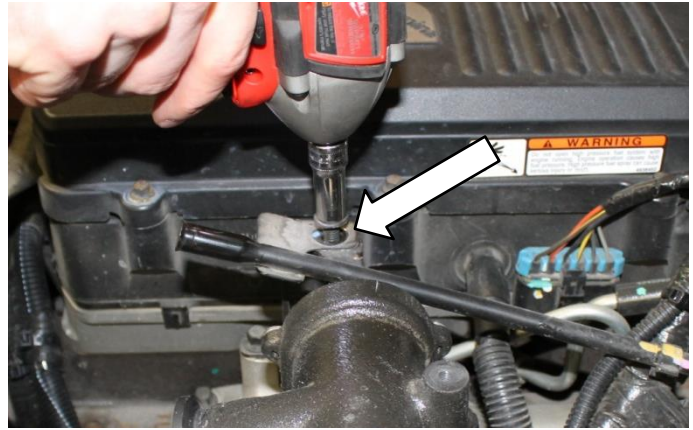
Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

US Shipping Address: 1124 Fir Avenue, Blaine, WA 98230 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: [www.bddiesel.com](http://www.bddiesel.com)



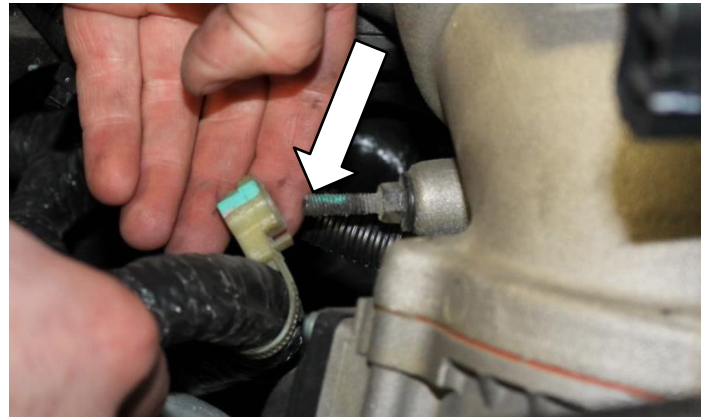
5. Remove the bolt holding the dipstick tube to the intake horn. (10mm socket)



6. Loosen clamp between the rubber coupler and the intake horn. Use a blade screwdriver to gently break the seal.



7. Pull off the harness clip from the intake horn.



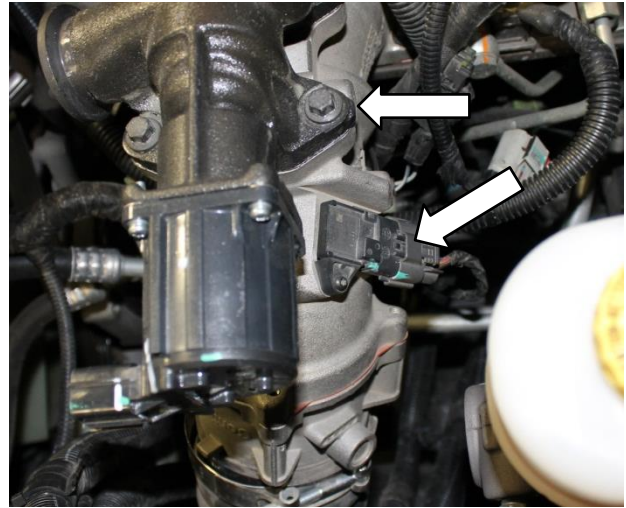
BD ENGINE BRAKE, INC.

Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

US Shipping Address: 1124 Fir Avenue, Blaine, WA 98230 US Mailing Address: PO Box 231, Sumas, WA 98295

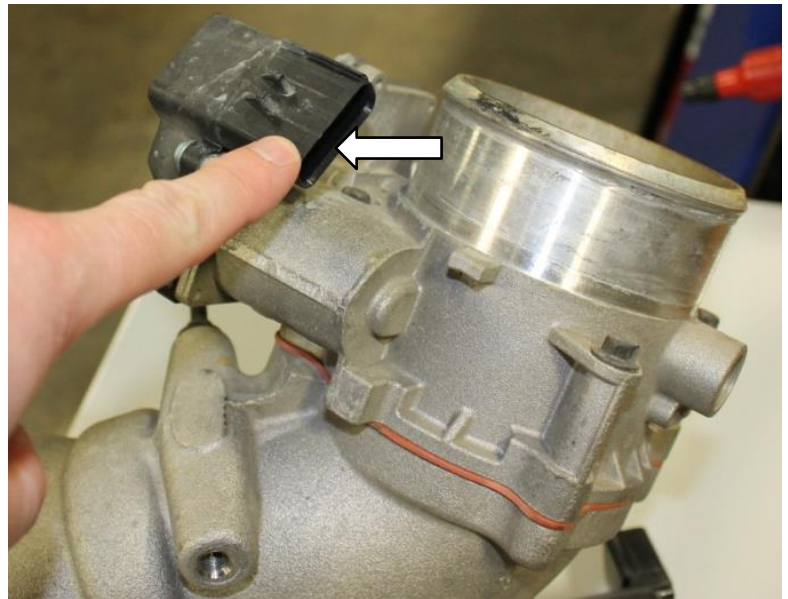
Phone: 604-853-6096 Fax: 604-853-8749 Internet: www.bddiesel.com

8. Disconnect the thermocouple from the backside of the intake horn, along with the bracket securing the wiring harness to the horn (10mm socket).
9. Unplug the map sensor plug.



10. Remove the 6 (10mm bolts) that secure the horn to the engine.
11. Gently twist the intake horn to expose the throttle valve sensor on the bottom of the horn. Disconnect the throttle valve connector then remove the horn from the vehicle.

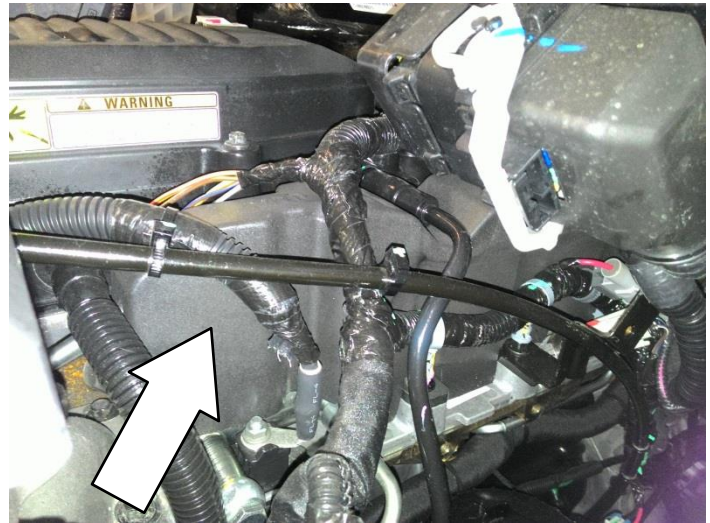
**NOTE:** The connector will need to be disconnected before you remove the horn from the vehicle.



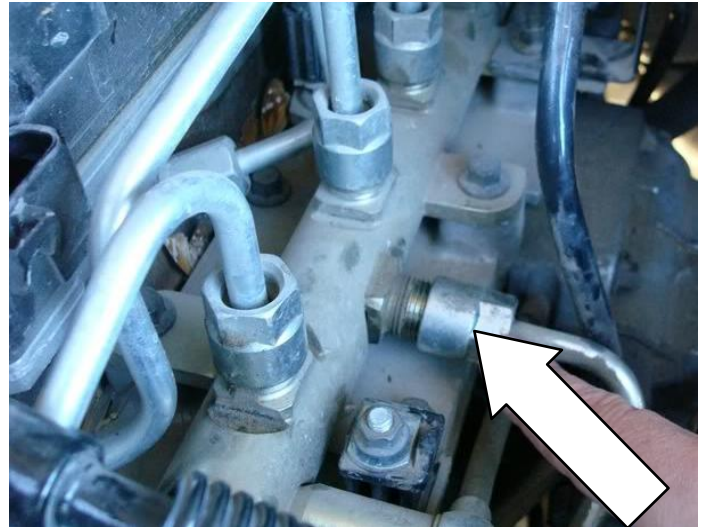
***Photo shown on bench for clarity.***



12. 2013+ Models Only  
Remove the sound deadening foam rubber from around the fuel injection lines to allow access to the fuel lines.



13. Loosen the fittings on the line that goes from the fuel rail to the CP3 pump, once both fittings are loose the line can be removed from the vehicle. (19mm Wrench)



14. Remove the banjo bolt with washer from the front side of the fuel rail (17mm wrench). **Careful not to lose the washer when you pull out the banjo bolt.**



BD ENGINE BRAKE, INC.

Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

US Shipping Address: 1124 Fir Avenue, Blaine, WA 98230 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: www.bddiesel.com

15. Remove the six injector lines starting with the loosening the fittings at the front of the fuel rail and the #1 injector (19mm wrench). (NOTE: Fittings on both sides of the line will need to be backed off before the line can be removed).

*As you remove the fuel lines identify them in some way (ie: masking tape and felt pen) so they can be reinstalled in the same location upon reinstallation.*



16. Disconnect the Intake air temperature sensor connector from the grid heater.

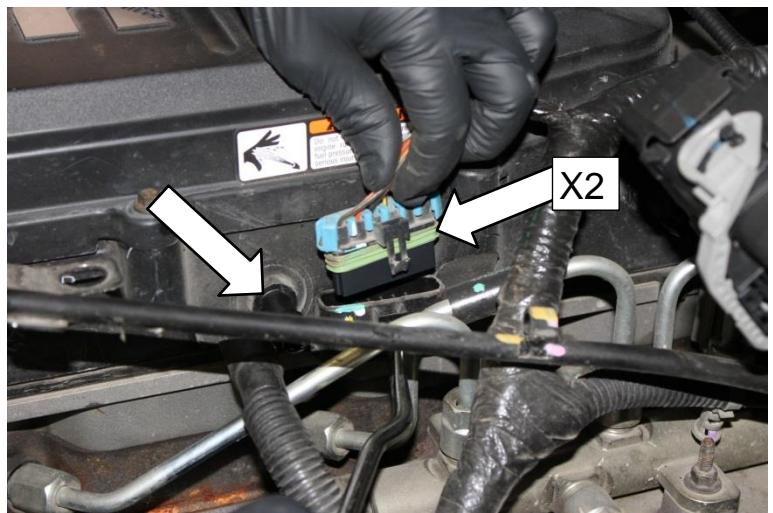
**NOTE** 2013+ models have this sensor located closer to the driver side of the intake plate.





17. Disconnect the breather hose to the motor. Also the fuel line harness connectors on the side of the motor (x2).
18. Using a puller tool pull out the harness clips that secure the harness to the grid heater and the other clip on the backside of the valve cover. (See below for photo).

Disconnect CCV pressure sensor harness connector that is located at rear of the valve cover. This needs to be disconnected to allow you to coil the harness aside to access the grid heater.



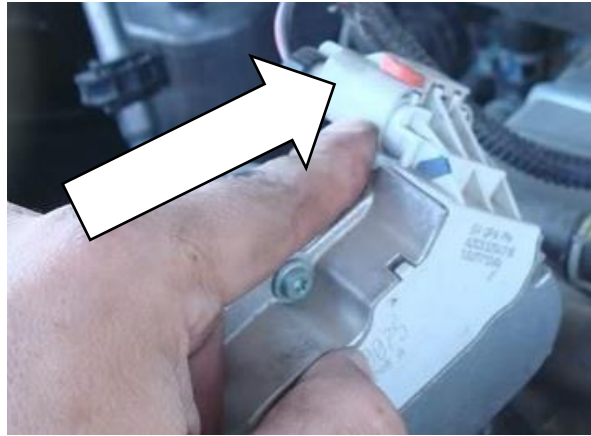
BD ENGINE BRAKE, INC.

Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

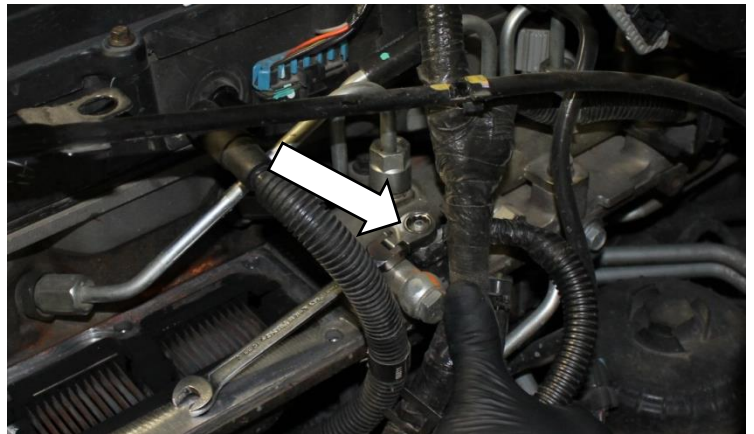
US Shipping Address: 1124 Fir Avenue, Blaine, WA 98230 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: www.bddiesel.com

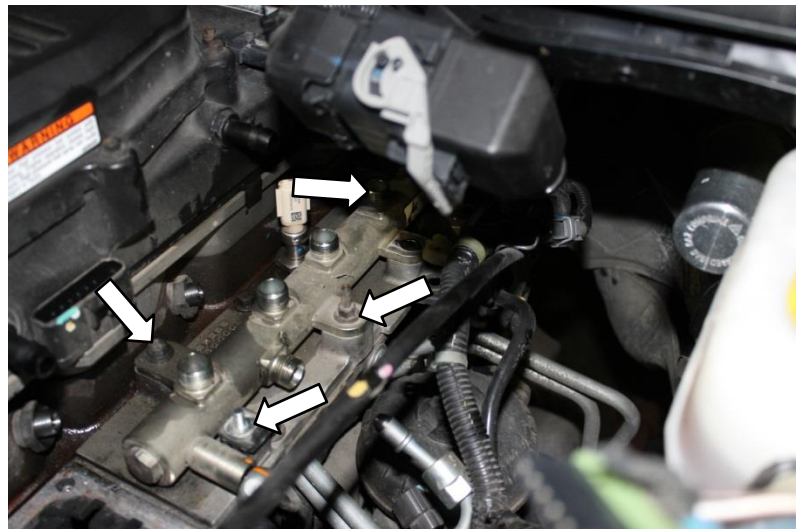
19. Disconnect the EGR servo motor connector.



20. Remove the power wire from the grid heater and tape off with electrical tape and fasten aside with a cable tie.(10 mm)



21. Remove the four bolts holding the fuel rail to the grid heater (10mm socket).



BD ENGINE BRAKE, INC.

Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

US Shipping Address: 1124 Fir Avenue, Blaine, WA 98230 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: [www.bddiesel.com](http://www.bddiesel.com)



22. Disconnect the Fuel rail connector from the back of the rail, the rail can now be removed from the vehicle.

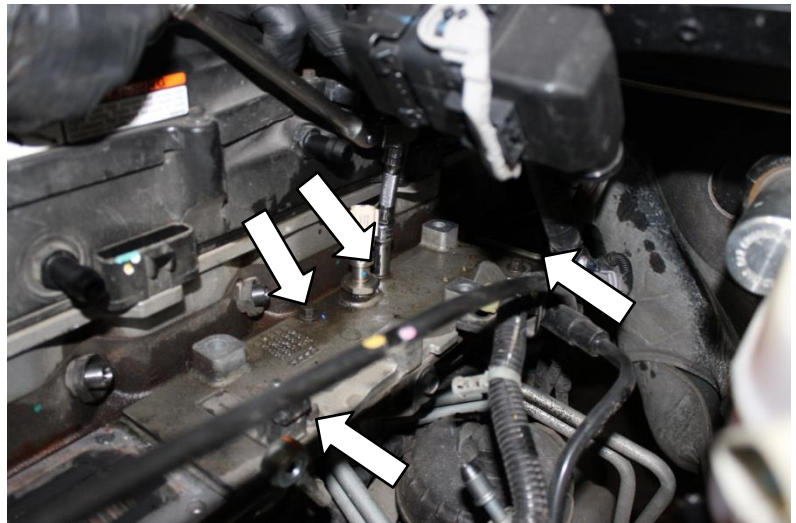


23. Using the 1" wrench remove the IAT sensor from the grid heater.

**NOTE** 2013+ models this sensor is located closer to the driver's side. Removal procedure is the same.



24. Remove the four remaining bolts that hold the grid heater to the engine.



BD ENGINE BRAKE, INC.

Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

US Shipping Address: 1124 Fir Avenue, Blaine, WA 98230 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: www.bddiesel.com



25. With the four bolts removed you may need to gently pry the grid heater from the gasket before it can be removed from the vehicle.

Clean off the old gasket if any is left on the engine and wipe clean so the new gasket will have a good seal.



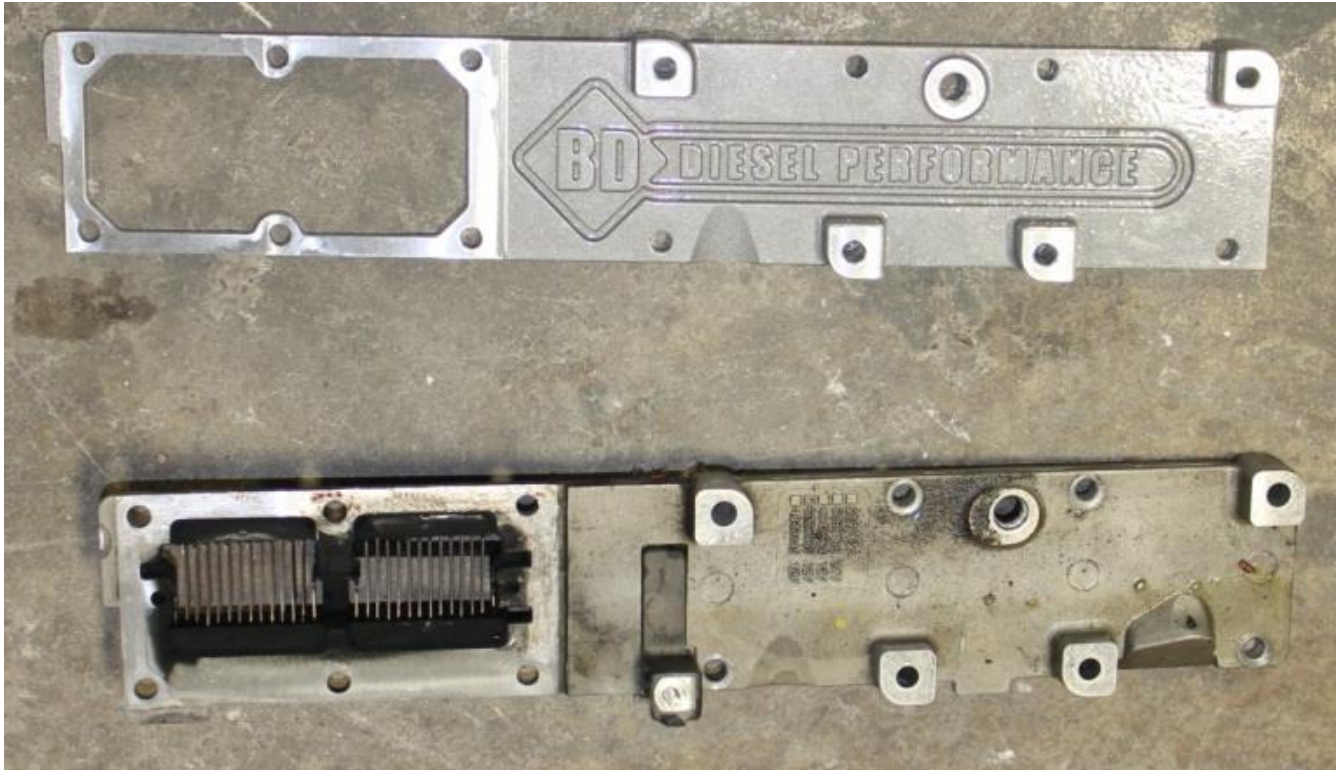
BD ENGINE BRAKE, INC.

Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

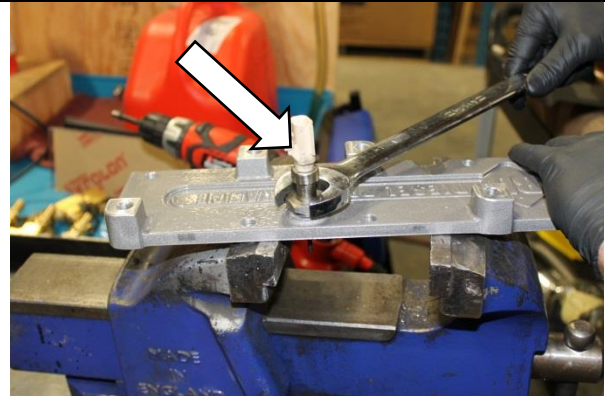
US Shipping Address: 1124 Fir Avenue, Blaine, WA 98230 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: [www.bddiesel.com](http://www.bddiesel.com)

## Installation

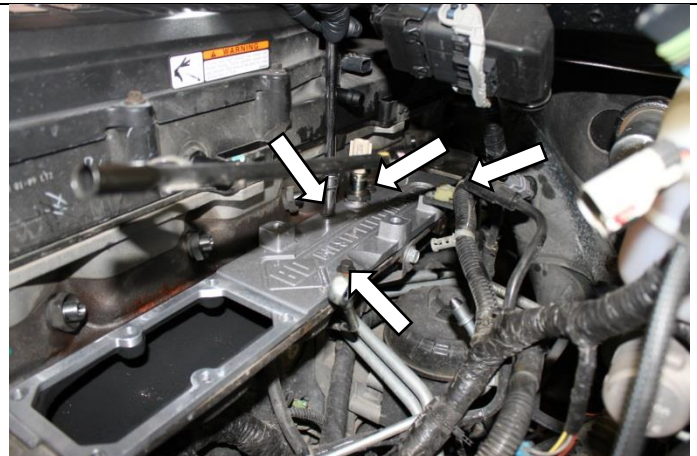


1. Reinstall the white connector IAT sensor into the plate (1" Wrench)



2. Apply some pipe dope to the four OEM intake bolts then install the BD Grid Heater plate with the supplied gasket. Tighten to 18 ft/lbs.

NOTE: threading in the intake horn bolts finger tight will help with the alignment of the holes so the horn will be easier to install later. Unthread intake horn bolts once the plate is in place.



BD ENGINE BRAKE, INC.

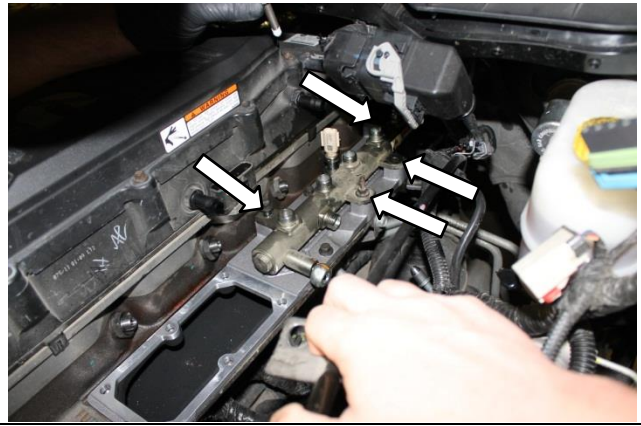
Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

US Shipping Address: 1124 Fir Avenue, Blaine, WA 98230 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: [www.bddiesel.com](http://www.bddiesel.com)



3. Reconnect the fuel rail connector. Then apply some pipe dope to the four OEM fuel rail bolts and reinstall the fuel rail to the intake plate. Torque to 18 ft/lbs. (10mm socket)



4. Reinstall the six injector lines (19mm wrench) an easy task if marked for identification, not fun if not.



BD ENGINE BRAKE, INC.

Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

US Shipping Address: 1124 Fir Avenue, Blaine, WA 98230 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: [www.bddiesel.com](http://www.bddiesel.com)



5. Reinstall the line that goes from the fuel rail to the CP3 pump.
6. Reinstall the banjo bolt with **washer** back into the fuel rail. (17mm)



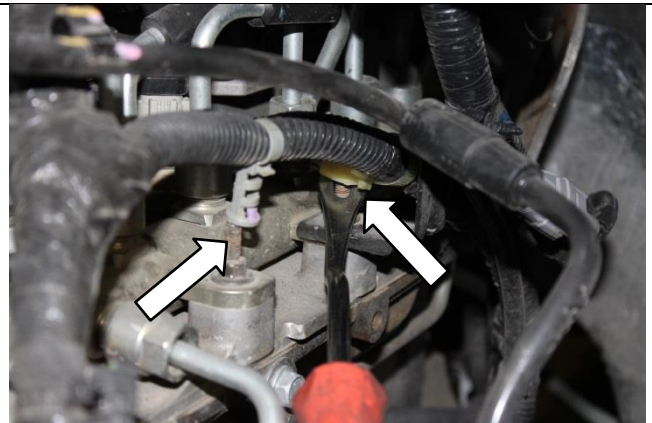
7. Reconnect the air breather hose to the motor. And the fuel line harness connectors on the side of the motor.(x2)
8. Reconnect the servo motor connector, CCV pressure sensor connector located behind the valve cover.
9. Reconnect the IAT sensor connector to the sensor in the intake plate.



For 2013+ models, use the IAT harness extension wire provided with this kit to make the original wire reach the new location.



10. Reconnect the harness clips onto the fuel rail in the same location as they were removed from.



BD ENGINE BRAKE, INC.

Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

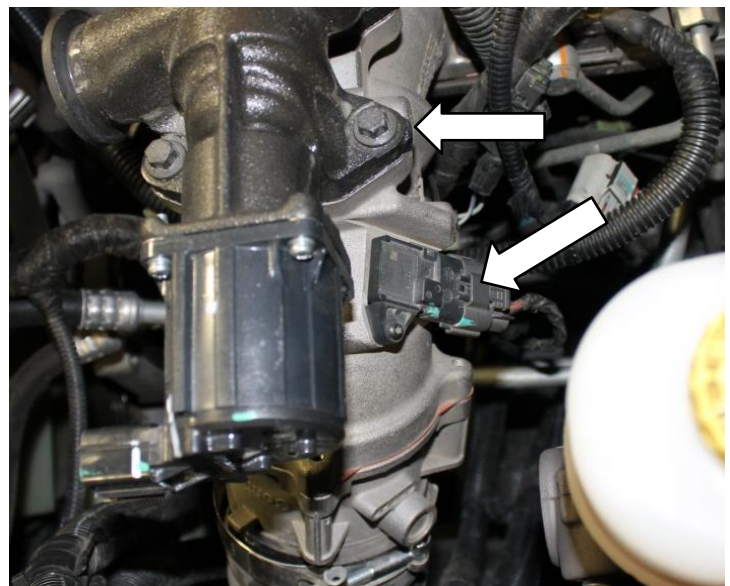
US Shipping Address: 1124 Fir Avenue, Blaine, WA 98230 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: [www.bddiesel.com](http://www.bddiesel.com)

**\*\*\*IMPORTANT\*\*\***

*If you are installing the BD 6.7L Intake Horn. Please reference the 1041561 manual that came with the intake Horn.*

11. Reconnect the throttle valve sensor to the bottom of the intake horn.
12. Reinstall the OEM horn into rubber coupler and fasten intake horn into place with the six OEM (10mm bolts). Torque bolts to manufacturer recommendations. Then tighten clamp at the rubber coupler connection to manufacturer specifications. Torque to 18 ft/lbs.
13. Reconnect the thermocouple on the backside of the horn and reattach the bracket securing the wiring harness (10 mm bolt). Also reconnect the MAP sensor.



BD ENGINE BRAKE, INC.

Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

US Shipping Address: 1124 Fir Avenue, Blaine, WA 98230 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: www.bddiesel.com



14. Reinstall dipstick bracket.

***Note at this point if you have installed the BD intake horn you will not need to reinstall the shroud and the install is complete. Test vehicle for proper function, and check for leaks.***



15. Reinstall the harness clip back onto the horn.



BD ENGINE BRAKE, INC.

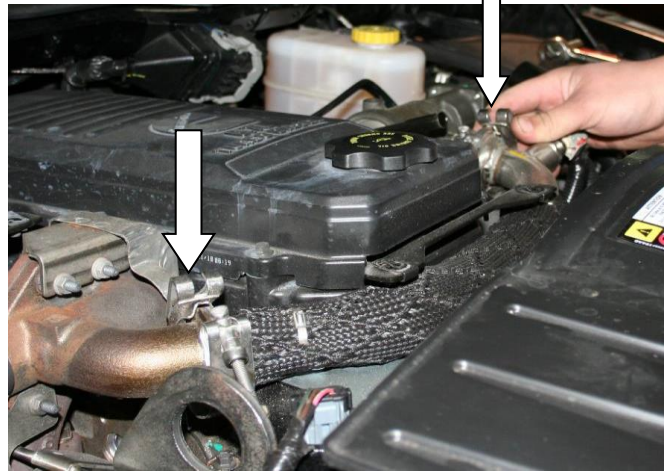
Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

US Shipping Address: 1124 Fir Avenue, Blaine, WA 98230 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: [www.bddiesel.com](http://www.bddiesel.com)



16. Reinstall the cross over pipe clamps (11 mm) and slide them down the pipe. Install the bolt (8mm) located at the center of the pipe, and tighten the clamps.



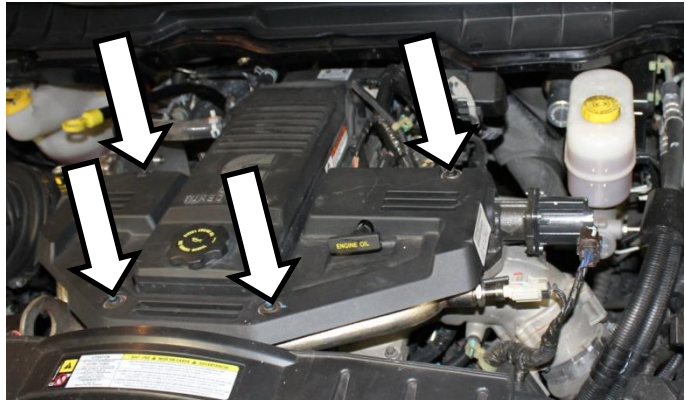
17. Reconnect the EGR valve connector to the EGR valve.

2011 and up only

Reconnect the temperature sensor connector as well.



18. Reinstall the four bolts that secure the plastic cover to the engine. (8mm) reinsert the oil dipstick.
19. Once complete test the vehicle for proper function and check for leaks.



**If you have any technical difficulties, concerns, or comments, please phone our Technical Support hotline at (800) 887-5030 between 8:30am-5:00pm PST (Pacific Standard Time) Monday to Friday.**

BD ENGINE BRAKE, INC.

Plant Address: A10-33733 King Rd, Abbotsford, BC, Canada V2S 7M9

US Shipping Address: 1124 Fir Avenue, Blaine, WA 98230 US Mailing Address: PO Box 231, Sumas, WA 98295

Phone: 604-853-6096 Fax: 604-853-8749 Internet: [www.bddiesel.com](http://www.bddiesel.com)